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REMARKS

Claims 1-20 remain pending in this application. Claims 1, 2, 4, 9, 10, 14 and 16 have been amended herein.

Specifically, independent Claims 1 and 10 have been amended to include the limitations of original claims 2 and 4, in the alternative. Thus the inkjet ink set now claimed comprises a first aqueous ink containing a self-dispersed pigment colorant and an aqueous fixer fluid comprising a soluble copper salt, wherein the first ink also contains either a soluble binder polymer or an effective amount of multivalent cation or both. Support for these amendments can be found in original claims 2 and 4. No new matter has been added. Such ink sets, as discussed throughout the specification, can deliver highly penetrating (fast drying) inks with improvement in print quality, such as optical density.

The technical problem addressed in the present invention is how to improve optical density (OD) of the ink set. The table of Example 1 shows that although the addition of a polymer binder in an ink comprising a self-dispersing pigment always reduces OD (compared to the ink without binder), the combination of binder/copper salt fixer fluid used has a positive effect on the OD (compared with other salts). A similar positive effect on OD is shown in Example 6, using the combination of multivalent salt/copper salt fixer solution.

None of the cited art singly or in combination discloses or suggests the present invention.

Claim Objections

Original Claim 9 was objected to as being improperly dependent on Claim 7, since Claim 7 includes no mention of the subject matter in Claim 9. As suggested by the Examiner, appropriate correction has been made by making Claim 9 dependent on Claim 8. As such, this objection should now be overcome.

Claim Rejections – 35 USC § 102

Original claims 1, 2, 5, 6, 10, 14, and 17 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by the disclosure of Katsuragi et al. (EP 1125994). The Applicants respectfully traverse this rejection.

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As the subject matter of original claims 2 and 4, in the alternative, is now incorporated into current independent claims 1 and 10, only those rejections pertaining to original claims 2 and 4 are discussed herein. Applicants submit that all other 102 and 103 rejections have been rendered moot by the amendment to independent claims 1 and 10 and respectfully request withdrawal of the same.

Turning to the 102 rejection of Claim 2, as is well established, anticipation requires the presence in a single prior art reference of each and every element of a claim, arranged as set forth in such claim. Katsuragi et al, which was asserted as anticipating original claim 2, teach an ink set including a first ink comprising a self-dispersing pigment and a fixing fluid comprising a soluble copper salt, but the first ink does not include a soluble binder polymer.

On the contrary, Katsuragi et al clearly refer to the polymer as a dispersant (see paragraphs [0054]-[0055]) and are clearly describing an ink with a traditional polymer stabilized pigment dispersion and not an ink with self-dispersing pigment ("SDP") and soluble binder polymer additive as required by the present claims, and as would be understood by a person of ordinary skill in the art. As noted in Applicants' specification (page 4, lines 10-14), a self-dispersing pigment is surface modified to be dispersible without separate polymer dispersant. The distinction between SDP and dispersant stabilized pigment is well understood by those skilled in the art.

Accordingly, in Katsuragi et al. the polymer is a dispersant associated with the pigment (adsorbed onto the pigment surface), and like a traditional dispersant is unavailable to serve as a film-forming polymer binder in the ink. The examples in Katsuragi et al clearly show that when traditional black pigments are used, the pigment and polymer dispersant (e.g., styrene-acrylic acid copolymer) are milled together in a media mill in the presence of water to form a stabilized pigment dispersion. This is a typical operation for causing the adsorption of a dispersant onto a pigment surface and forming a stabilized pigment dispersion to prevent the pigment particles from agglomerating or flocculating. The dispersed pigment that has been stabilized by the polymer is then added as a separate dispersed pigment component to the ink. There is no disclosure of any amount of excess polymer present (even inherently) in the dispersion as free polymer after the milling operation. One can only conclude that dispersant polymer is present in the Katsuragi et al. inks only for its intended purpose,

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namely as a dispersant adsorbed onto the pigment surface. Thus, Katsuragi et al do not disclose a separate binder polymer as required by the present claims.

As such, the Applicants submit that the disclosure of Katsuragi et al do not meet the standard for anticipating the present claims, and respectfully request withdrawal of this rejection.

Claim Rejections – 35 USC § 103

Original claims 3, 8, 15 and 19 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over the disclosure of Katsuragi et al (EP1125994) in view of Koitabashi et al (EP1172225).

As discussed above, without going to the basis of the rejection, the Applicants would note that current independent claims 1 and 10 now contain the limitations of original dependent claims 2 and 4, respectively, which original dependent claims were not rejected on this ground. As such, the Applicants submit that this rejection has been rendered moot by the amendment to independent claims 1 and 10, and respectfully request withdrawal of the same.

Original claims 4 and 16 also stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over the disclosure of Katsuragi et al (EP1125994) in view of Koitabashi et al (US6577991).

At the outset, Applicants assumes that Examiner misstated the patent number in the secondary reference and the patent number should have been "US 6557991". Appropriate correction of the Examiner's PTO-892 form is also respectfully requested.

Assuming that the rejection of original Claim 4 is over Katsuragi et al (EP1125994) in view of Koitabashi et al (US6557991), Applicants respectfully traverse this rejection.

The Examiner's position is that Katsuragi et al disclose an ink set including a first ink comprising a self-dispersing pigment and a fixing fluid comprising a soluble copper salt, but fail to teach the first ink comprising multivalent cation. In order to fill this gap in the disclosure of Katsuragi et al, the examiner asserts Koitabashi et al as disclosing a first ink comprising multivalent cation. On the contrary, the Koitabashi et al disclosure at col. 4, lines 50-55, is clearly directed to the incorporation of multivalent cation in a "treating liquid" (comparable to Applicants' fixer fluid). There is no disclosure of

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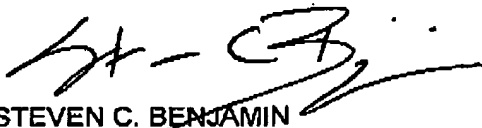
multivalent cation contained in an ink such as applicants' first ink and lacking such disclosure, the obviousness rejection cannot be sustained as all of applicants' claim limitations are not taught or suggested by Koitabashi et al in combination with Katsuragi et al. or any other art of record.

Since the combination of references does not arrive at applicants' invention, the *prima facie* case of obviousness has not been made and the rejection should be withdrawn.

Conclusion

As demonstrated in the forgoing remarks, claims 1 and 10 are novel and non-obvious relative to the art of record and are now in condition for allowance. As the remaining dependent claims are derived from patentable claims 1 and 10, they are likewise in allowable form. Therefore, the application should now be in allowable form. If for some reason the application is not allowable, Applicants' attorney requests a telephonic interview with the Examiner to discuss the case and any additional amendments to the claims that may be required to place the case in allowable form.

Respectfully submitted,



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